

REMARKS

Claims 1 through 17 are in the application, with claims 12 through 17 having been withdrawn and claims 1 and 9 having been amended. Of the claims currently under consideration, claims 1 and 9 are independent. No new matter has been added. Reconsideration and further examination are respectfully requested.

Objections

The Office Action objects to previously-submitted marked up FIG. 1 under 37 CFR §1.84. Applicants respectfully note that 37 CFR §1.84 describes the standards for drawings presented in utility and design patent applications. However, marked up FIG. 1 was not submitted as a replacement drawing in the present application but rather as a visual aid to Applicant's response to the previous Office Action. Accordingly, 37 CFR §1.84 is inapplicable to marked up FIG. 1 and the objection is improper. Withdrawal of the objection is respectfully requested.

§112 Rejections

Claims 1-3 and 5-11 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Claims 1-3 and 5-11 are also rejected under 35 U.S.C. §112, second paragraph, for alleged indefiniteness. Reconsideration and withdrawal of the rejections are respectfully requested.

The pending claims have been amended to include "an imaginary vector" since the Office Action states that this limitation would be considered for examination purposes. Withdrawal of the §112 rejections is respectfully requested.

§103 Rejections

Claims 1-3 and 5-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Patent 11219825 ("Wakamatsu") in view of U.S. Patent No. 6,759,937 ("Kyriazidou"). Reconsideration and withdrawal of the rejection are respectfully requested.

Amended independent claim 1 describes a device comprising a first layer of a multilayer substrate, a second layer of a multilayer substrate, a first section of an inductor, a second section of the inductor, a shielding plane, a first dielectric layer, and a second dielectric layer. The first layer has a first portion and a second portion. The second layer has a third portion and a fourth portion. The first section of an inductor is disposed in the second portion of the first layer and the second section of the inductor is disposed in the third portion of the second layer. The second section of the inductor is coupled at a plurality of locations to the first section of the inductor. The shielding plane is disposed between the first layer and the second layer. The first dielectric layer is disposed between the first layer of a multilayer substrate and the shielding plane and the second dielectric layer is disposed between the first layer of a multilayer substrate and the shielding plane. Moreover, an imaginary vector normal to the first section of an inductor does not intersect any other section of the inductor.

The art of record is not seen to disclose or suggest the above-mentioned features of amended independent claim 1. In particular, the art of record is not seen to disclose or to suggest a first section of an inductor disposed in a second portion of a first layer of a multilayer substrate, a second section of the inductor disposed in a third portion of a second layer of the multilayer substrate and, the second section of the inductor coupled at a plurality of locations to the first section of the inductor, and a shielding plane disposed between the first layer and the second layer where the second section of the inductor is coupled at a plurality of locations to the first section of the inductor.

As stated in M.P.E.P. §2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success and third, the prior art reference must teach or suggest all the claim limitations. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

Applicants believe that the prior art includes no suggestion or motivation to combine Wakamatsu and Kyriazidou in the manner proposed in the Office Action. In this regard, M.P.E.P. §2143.01 states that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose then no suggestion or motivation to make the proposed modification exists.

Wakamatsu illustrates a surface mounted transformer that includes dielectric sheets 7a and 7b and spiral inductors L1 and L2. The Office Action, at page 4, states that Wakamatsu discloses a first portion of a spiral inductor L1 and a second portion of a spiral inductor L2. Applicants respectfully disagree. Wakamatsu describes individual and discrete spiral inductors (L1 – L4) that circumscribe the upper and lower surfaces of the connection sheet and the ground sheet (Page 2 -Abstract). Spiral inductor L1 is located on an upper surface of dielectric sheet 7a and spiral inductor L2 is located on an upper surface of dielectric sheet 7b. The innermost end of inductor L1 is connected to connection sheet 2 and an outermost end of inductor L1 is connected to the outermost end of inductor L2. Inductors L1 and L2 are not connected at any other points. It is well known in the art to have multiple inductors connected in parallel or in serial. Accordingly, L1 and L2 are separate inductors that are part of a transformer and are not separate portions of the same inductor.

Kyriazidou describes a multi-layer inductor comprising two or more layers of an inductor and interconnecting structures between each layer of the inductor. At Column 4, lines 21 – 39, Kyriazidou discloses that increasing the number of layers of the inductor may increase capacitance so that the inductor is unusable at a desired operating range. To insure that the inductor is useable, the capacitance is tuned by varying the distance between the partial winding on one layer and the partial windings on another layer and/or offsetting the partial windings such that they do not lie directly above or below the other partial windings. At Column 5, lines 20 – 25, Kyriazidou states that to alter the capacitance of a differential inductor, parallel partial windings may be moved such that the distance between the parallel partial windings is increased.

Therefore, placing interconnecting structures as illustrated in Kyriazidou between inductor L1 and inductor L2 of Wakamatsu would create a short between inductor L1 and

inductor L2, thereby preventing each inductor from working as an individual and discrete inductor. Thus, the proposed modification suggested in the Office Action would render the “prior art invention being modified” unsatisfactory for its intended purpose, and therefore, no suggestion or motivation to make the proposed modification exists.

Accordingly, Wakamatsu and Kyriazidou, taken alone or in any permissible combination, cannot possibly be seen to disclose or to suggest a first section of an inductor disposed in a second portion of a first layer of a multilayer substrate, a second section of the inductor disposed in a third portion of a second layer of the multilayer substrate and coupled at a plurality of locations to the first section of the inductor, and a shielding plane disposed between the first layer and the second layer, where the second section of the inductor is coupled at a plurality of locations to the first section of the inductor.

In view of the foregoing, amended independent claim 1 and its related dependent claims are believed to be in condition for allowance.

Amended independent claim 9 describes a method roughly corresponding the device of claim 1. Therefore, in view of the foregoing, amended independent claim 9 and its related dependent claims are believed to be in condition for allowance.

Alleged New Matter

The Response to Arguments section of the July 31, 2006 Office Action alleges that the previously-submitted marked-up version of FIG. 1 constitutes new subject matter not supported by the original disclosure. As noted in M.P.E.P. §608.01, in “establishing a disclosure, applicant may rely not only on the description and drawing as filed but also on the original claim”(emphasis added). Applicants respectfully point out that elements 71 through 74 shown in marked-up FIG. 1 are present in FIG. 1 as filed. Therefore, elements 71 through 74 are supported by the original disclosure and do not constitute new matter.

CONCLUSION

The outstanding Office Action presents a number of characterizations regarding the applied references, some of which are not directly addressed by this response. Applicants do not necessarily agree with the characterizations and reserve the right to further discuss those characterizations.

For at least the reasons given above, it is submitted that the entire application is in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience. Alternatively, if there remains any question regarding the present application or any of the cited references, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is kindly invited to contact the undersigned via telephone at (203) 972-4982.

Respectfully submitted,

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Date



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